



Beyond EVM Basics: Baseline Control, Risk Considerations and Performance Indicators

Audience: Project team members who are responsible for the cost, schedule and technical performance of project work scope.

Goal: This 16 hour course will provide an understanding of how to control baseline changes, integrate risk management with EVM, and analyze performance indicators and flags that build upon the basic understanding of the Performance Measurement Baseline (PMB), cost and schedule variances and indices, and determining an Estimate At Completion (EAC).

Learning Objectives: Participants will be able to:

- Understand how to control changes to the Performance Measurement Baseline
- Understand how to make risk-informed decisions about Management Reserve and Schedule Reserve usage
- Understand the role of quantitative cost and schedule risk analysis in developing risk-adjusted baselines
- Recognize and respond to warning signs from the contractor's EVM data
- Understand how common EVM analysis traps could compromise effective decision making
- Develop pertinent EVM metrics and reporting for senior management

Learning Methods: Lectures, case studies, discussions, demonstrations, and exercises

Key Topics:

- Baseline maintenance
- Handling cost and schedule implications of contractor claims
- Reserves planning and control
- Risk Adjusted Baselines
- Establishing and monitoring thresholds
- Performance flags and indicators
- Reconciling EVM schedule performance with the Critical Path Method (CPM) Schedule performance
- EVM Analysis Traps
- Reporting to senior management

Suggested Prerequisites:

- Understanding Earned Value Management
- Understanding Schedule Management

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| Module Name | Topics | Learning Objectives - Participants will be able to: |
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| 1.0 Introduction | <ul style="list-style-type: none"> • Instructor/participant introductions • Agenda • Course Objectives • Group discussion- EVM and Mission Success | <ul style="list-style-type: none"> • Articulate course objectives and outcomes • Define the ingredients required for Mission Success from an EVM point of view |
| 2.0 The Government / Contractor EVM Environment | <ul style="list-style-type: none"> • Policy Refresher: OMB, 7120.5D, FAR, EIA-748 • EVM DRD/contract/CDRL | <ul style="list-style-type: none"> • Understand the governing requirements for EVM on NASA projects |
| 3.0 Change Happens: Managing the Baseline | <ul style="list-style-type: none"> • Integrated change control • Revisions • Baseline Maintenance • Handling Contractor Claims • A total project view of replanning • Group Exercise: Dealing with an Overrun | <ul style="list-style-type: none"> • Describe the importance of Integrated Change Control • Understand how to implement decisions and changes in a controlled and deliberate manner at the contract level • Articulate the revision process for incorporating changes into the Performance Measurement Baseline (PMB) at the Control Account level • Understand how to reconcile current and prior period budgets, control retroactive changes, prevent revisions for unauthorized changes, document changes to the baseline, and ensure proper use of MR and UB • Understand the impact of contractor claims on the baseline and performance • Discuss why a "new" PMB is sometimes necessary and the methods used for creating one <ul style="list-style-type: none"> - Internal Replanning - External Replanning - Reprogramming • Understand decision process for Over Target Baselines, Over Target Schedules, and Single Point Adjustments |

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| 4.0 Risk Analysis and EVM | <ul style="list-style-type: none">• Types of cost and schedule reserves• The difference between MR and UB• Reserves planning and control• High risk elements of the project (multiple schedule paths, high dollar value, new technology, foreign partners, etc.)• Risk-Adjusted Baselines<ul style="list-style-type: none">- Quantitative cost and schedule risk analysis using Monte Carlo simulation- Confidence levels- Range estimates• Descope• Establishing and monitoring alert zones | <ul style="list-style-type: none">• Recognize types of cost and schedule reserves• Identify ways to establish reserve levels• Understand the difference between MR and UB• Understand the role of descopes in maintaining the baseline• Understand sources of risk to the project• Understand how to interpret the results of Monte Carlo simulation• Develop effective reserve status reports• Analyze Reserves usage based on trends, thresholds and ratios• Understand the decision process for establishing alert zones• Understand how to make risk-informed decisions about reserve usage• Understand the implications of breaches to alert zones |

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| 5.0 Warning Signs from the Contractor's EVMs | <ul style="list-style-type: none"> Does the Contractor's Performance Measurement Baseline Pass the Test? Group Discussion: Analyzing the Contractor's "One Pager" A closer look at Performance Indicators <ul style="list-style-type: none"> - Prior performance - Future performance - Other flags and considerations Reconciling EVM schedule performance with the Critical Path Method (CPM) Schedule performance Interfacing with Control Account Managers (CAMs) Group Exercise: Deciphering the CPR, 533, staffing reports & schedule | <ul style="list-style-type: none"> Identify the attributes of an unrealistic baseline Understand how to analyze contractor EVM reports during a monthly status review Assess and interpret cost, schedule, and technical performance based on established baseline controls and metrics Detecting "bad" data vs. performance problems Understand how to react to process issues and unusual situations Understand the relationship of the Critical Path Method (CPM) schedule and EVM schedule performance Understand the value of a good working relationship with the CAMs Understand the integrated nature of all project management systems and elements |
| 6.0 EVM Analysis Traps | | |
| 7.0 Reporting to Senior Management | <ul style="list-style-type: none"> Reporting progress and the estimate of final cost and schedule Discern between relevant and irrelevant data Ethics of reporting project performance | <ul style="list-style-type: none"> Understand how to respond to management's need for visibility into project status |